REMARKS

Claims 26 and 30-50 are pending in this application. Claims 26, 34, 47 and 49 have been amended. No new matter has been introduced.

Claims 34-38, 47 and 49 are rejected under 35 U.S.C. § 102 as being anticipated by Brumm (U.S. Patent No. 3,624,753). Reconsideration is respectfully requested.

The claimed invention relates to a device for handling pressurized gas and a method of operating a surge-prevention valve. As such, amended independent claim 34 recites a surge prevention dual-path valve for pressurized oxygen comprising *inter alia* "a housing having an inlet connected to a surge of high pressure oxygen," "a first valve . . . comprising an upper seat in communication with an upper portion of a pressurization orifice" and "a second valve . . . comprising a lower seat in communication with a lower portion of said pressurization orifice." Amended independent claim 34 also recites "a lower valve element located within said housing, said valve element having an annular recess for receiving said lower seat of said second valve." Amended independent claim 34 further recites "a threaded piston unit arranged to initially move said upper seat in a first direction to open said pressurization orifice, and to subsequently move said lower seat in an axial direction to open said flow path."

Amended independent claim 47 recites a "method of operating a surge prevention dual-path valve" by *inter alia* "moving at least a portion of a threaded piston unit in an axial direction to cause oxygen to flow through a pressurization orifice of a first valve" and "subsequently moving said piston unit in said axial direction to cause a torque engagement that allows oxygen to flow through a second valve." Amended independent claim 47 also recites that the step of moving the piston unit to cause the

torque engagement "further comprises engaging a spring to bias said piston unit, said spring being provided at a lower end surface of said threaded piston unit."

Amended independent claim 49 recites a "method of operating a surge prevention dual-path valve" by *inter alia* "moving at least a portion of a threaded piston unit in an axial direction to cause nitrous oxide to flow through a pressurization orifice of a first valve" and "subsequently moving said piston unit in said axial direction to cause a torque engagement that allows nitrous oxide to flow through a second valve." Amended independent claim 49 further recites that the step of moving the piston unit to cause the torque engagement "further comprises engaging a spring to bias said piston unit, said spring being provided at a lower end surface of said threaded piston unit."

Brumm relates to a "two-stage opening globe valve." According to Brumm, "[c]oaxial and lateral primer ducts connect the chamber to the upstream and downstream flow passages." (Abstract). Thus, after the primer valve 76 closes and shuts off an outlet primer duct 91 "opening into the downstream flow passage (16)," the primer valve 76 "will engage and open the main valve plug 76 for full capacity upstream flow." (Col. 2, lines 53-57; Col. 3, lines 2-3).

Brumm does not disclose all limitations of claims 34-38, 47 and 49. Brumm does not teach or suggest a "surge prevention dual-path valve" comprising *inter alia* a housing, a first valve and a second valve, and "a lower valve element located within said housing, said valve element having an annular recess for receiving said lower seat of said second valve," as amended independent claim 34 recites. In Brumm, main valve plug 74, which would arguably correspond to the "lower valve element" of the claimed invention, is not provided with a "recessed area for receiving a lower seat of said second valve," as recited in amended independent claim 34. Brumm also fails to teach

or suggest "a threaded piston unit" of a surge prevention dual-path valve for pressurized oxygen. In Brumm, valve stem 46, which would arguably correspond to the piston unit of the claimed invention, is provided with stem screw 34 and is not "threaded."

Brumm also fails to disclose the sequence of steps of independent claims 47 and 49. Brumm does not disclose that the step of moving the piston unit to cause the torque engagement "further comprises engaging a spring to bias said piston unit, said spring being provided at a lower end surface of said threaded piston unit." In Brumm, coil spring 84, which would arguably correspond to the "spring" of the claimed invention, is located within housing 12 where the primer valve 76 resides, and not "provided at a lower end surface of said threaded piston unit," as in the claimed invention. For at least these reasons, Brumm fails to anticipate the subject matter of claims 34-38, 47 and 49, and withdrawal of the rejection of these claims is respectfully requested.

Claims 26 and 30-33 are rejected under 35 U.S.C. § 103 as being unpatentable over Brumm in view of either Lamar (U.S. Patent No. 2,217,842) or Wiegel (U.S. Patent No. 2,864,400). Reconsideration is respectfully requested.

Amended independent claim 26 recites a "device for handling pressurized gas" comprising *inter alia* "first and second valves" located within a housing and "an actuator arranged to initially open said first valve for flowing gas in a first direction . . . and to subsequently open said second valve for flowing gas in an axial direction." Amended independent claim 26 also recites "a lower cup-shaped valve element located within said housing . . . having an annular recessed area for receiving a lower seat of said second valve, said lower seat being in communication with a lower portion of said pressurization orifice."

The subject matter of claims 26 and 30-33 would not have been obvious over Brumm in view of Lamar or Wiegel. Specifically, the Office Action fails to establish a *prima facie* case of obviousness. Courts have generally recognized that a showing of a prima facie case of obviousness necessitates three requirements: (i) some suggestion or motivation, either in the references themselves or in the knowledge of a person of ordinary skill in the art, to modify the reference or combine the reference teachings; (ii) a reasonable expectation of success; and (iii) the prior art references must teach or suggest all claim limitations. See e.g., In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Rouffet, 149 F.3d 1350, 1355 (Fed. Cir. 1998); Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573 (Fed. Cir. 1996).

In the present case, Brumm and either Lamar or Wiegel, whether considered alone or in combination, do not disclose, teach or suggest all limitations of independent claim 26. Brumm does not suggest a "device for handling pressurized gas" comprising *inter alia* "first and second valves" located within a housing and "a lower cup-shaped valve element located within said housing . . . having an annular recessed area for receiving a lower seat of said second valve, said lower seat being in communication with a lower portion of said pressurization orifice," as amended independent claim 26 recites.

In addition, neither Lamar nor Wiegel teaches or suggests "first and second valves" located within a housing and "a lower cup-shaped valve element located within said housing . . . having an annular recessed area for receiving a lower seat of said second valve," as in the claimed invention. Lamar teaches a valve structure comprising a "valve head" which is operated "without the use of auxiliary equipment and irrespective of the direction of application of the of the fluid pressures." (Col. 1, lines 19-22). Lamar is silent about "a lower cup-shaped valve element," much less about "a lower cup-shaped valve element located within said housing . . . having an

annular recessed area for receiving a lower seat of said second valve," as in the claimed invention. Similarly, Wiegel teaches only an auxiliary valve 10 which is provided with a "hard-rubber valve ring 11" and "a restricted passage or orifice 12" (col. 1, lines 69-70), and not "a lower cup-shaped valve element . . . having an annular recessed area for receiving a lower seat of said second valve," as amended independent claim 26 recites. For at least these reasons, the Office Action fails to establish a *prima facie* case of obviousness, and withdrawal of the rejection of claims 26 and 30-33 is respectfully requested.

Claims 39-46 are rejected under 35 U.S.C. § 103 as being unpatentable over Brumm. Reconsideration is respectfully requested.

Independent claim 39 recites a method of operating a surge prevention dual-path valve by "moving at least a portion of a piston unit in an axial direction for about 0.25 to about 1.5 seconds to cause gas to flow through a pressurization orifice" and "subsequently moving said piston unit in said axial direction to cause gas to flow through a second valve."

Brumm fails to teach or suggest a method of operating a surge prevention dual-path valve by "moving at least a portion of a piston unit in an axial direction for about 0.25 to about 1.5 seconds to cause gas to flow through a pressurization orifice," as independent claim 39 recites. For at least these reasons, the Office Action fails again to establish a *prima facie* case of obviousness, and withdrawal of the rejection of claims 39-46 is respectfully requested.

Claims 47-50 stand rejected under 35 U.S.C. § 103 as being unpatentable over Bathe (U.S. Patent No. 6,125,846) in view of Brumm. Reconsideration is respectfully requested.

Bathe relates to a nitric oxide delivery system that provides "protection against the inadvertent inclusion of NO_2 in the therapeutic gas administered to the patient." According to Bathe, one of the functions of the delivery system is "to provide a purge upon start up . . . that clears the regulator and conduits of any NO_2 that may have formed during the prior idle period of the system." Bathe also teaches that a detector "determines the start-up and may automatically carry out the purge cycle or may cause a prompt that is visual or audible to remind the user to carry out the purge cycle manually."

The subject matter of claims 47-50 would not have been obvious over Bathe in view of Brumm. Bathe fails to teach or suggest a method of operating a surge prevention dual-path valve, much less a method of operating a surge prevention dual-path valve by "moving at least a portion of a threaded piston unit in an axial direction to cause oxygen to flow through a pressurization orifice of a first valve" and "subsequently moving said piston unit . . . to cause a torque engagement that allows oxygen to flow through a second valve," as amended independent claim 47 recites. Bathe is also silent about a "method of operating a surge prevention dual-path valve" by "moving at least a portion of a threaded piston unit in an axial direction to cause nitrous oxide to flow through a pressurization orifice of a first valve" and "subsequently moving said piston unit . . . to cause a torque engagement that allows nitrous oxide to flow through a second valve," as amended independent claim 49 recites.

Similarly, Brumm fails to teach or suggest all limitations of amended independent claims 47 and 49. Brumm does not teach or suggest "moving at least a portion of a threaded piston unit" or "moving said piston unit . . . to cause a torque engagement" by "engaging a spring to bias said piston unit, said spring being provided at a lower end surface of said threaded piston unit," as amended independent claims 47

and 49 recite. Accordingly, for at least these reasons, the Office Action fails again to establish a *prima facie* case of obviousness, and withdrawal of the rejection of claims 47-50 is also respectfully requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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